

WHAT IS CLAIMED IS:

1                   1.       A method for compiling data to enhance diagnosis of a myocardial  
2 infarction, the method comprising:

3                   measuring multiple-lead electrocardiogram data of multiple patients;  
4                   sorting the measured data into groups, each group correlating measured data  
5 from one or more of the patients with ischemia in a heart region; and  
6                   storing the group correlations.

1                   2.       The method of claim 1, wherein the measuring step further comprises:  
2                   acquiring electrocardiogram data from the patients with the multiple-lead  
3 electrocardiogram while the patients are experiencing temporary ischemia during  
4 percutaneous transluminal coronary angioplasty; and  
5                   identifying at least one location of the temporary ischemia on the heart of each  
6 patient.

1                   3.       The method of claim 1, wherein the measuring step further comprises:  
2                   acquiring electrocardiogram data from the patients with the multiple-lead  
3 electrocardiogram while the patients are suspected to be experiencing ischemia;  
4                   confirming that the patients experienced ischemia; and  
5                   identifying at least one location of the ischemia on the heart of each patient.

1                   4.       The method of claim 3, wherein the confirming and mapping steps  
2 comprise conducting an angiogram procedure.

1                   5.       The method of claim 2 or 3, wherein the at least one location is taken  
2 from a group consisting of an anteroseptal location, an inferior location, a posterolateral  
3 location.

1                   6.       The method of claim 1, wherein the measuring step includes measuring  
2 cardiac data using an electrocardiogram device having greater than 12 leads.

1                   7.       The method of claim 6, wherein the measuring step includes measuring  
2 the cardiac data using an electrocardiogram device having 62 leads.

1                   8.       A method for enhancing diagnosis of a myocardial infarction in a  
2 patient, the method comprising:

3 matching cardiac data acquired from the patient with stored cardiac ischemia  
4 correlation data, wherein the stored cardiac data is derived from multiple ischemia patients  
5 sorted into groups of patients based on locations on the ischemia patients' hearts where  
6 ischemia occurred; and

7 identifying at least one location of ischemia on the patient's heart, based on  
8 the stored cardiac data that matches the acquired cardiac data.

1 9. The method of claim 8, wherein the at least one location is taken from  
2 a group consisting of an anteroseptal location, an inferior location, a posterolateral location.

1 10. The method of claim 8, further comprising determining whether a  
2 myocardial infarction occurred in the patient.

1 11. The method of claim 8, further comprising determining a size of the  
2 myocardial infarction.

1 12. The method of claim 11, wherein determining a size of the myocardial  
2 infarction comprises:

3 defining a relationship between at least one electrocardiogram characteristic  
4 and a typical myocardial infarction size; and

5 comparing the acquired electrocardiogram data and the at least one  
6 electrocardiogram characteristic to determine whether the myocardial infarction has the  
7 typical myocardial infarction size.

1 13. A method for enhancing diagnosis of a myocardial infarction in a heart  
2 of a patient, the method comprising:

3 acquiring cardiac data from the heart using a multiple-lead electrocardiogram  
4 device;

5 matching the cardiac data to stored cardiac data derived from at least one  
6 ischemia patient, wherein the location of ischemia on the ischemia patient's heart is known;  
7 and

8 displaying information regarding at least one location of ischemia on the  
9 patient's heart, based on the matching stored cardiac data for the ischemia patient.

1 14. A system for using stored electrocardiogram data to enhance diagnosis  
2 of a myocardial infarction in the heart of a patient, the system comprising:

3 a data storage module for storing a correlation database derived from  
4 electrocardiogram data of multiple patients, the patients having either experienced a  
5 myocardial infarction or temporary cardiac ischemia during percutaneous transluminal  
6 coronary angioplasty and the data being sorted according to locations of ischemia on the  
7 hearts of the patients; and

8 computer software for enabling comparison of new electrocardiogram data to  
9 the stored electrocardiogram data to determine a location of ischemia in the heart of the  
10 patient.

1 15. The system of claim 14, further comprising:  
2 at least one disposable substrate for placement on the patient, the substrate  
3 including multiple electrocardiogram leads; and  
4 at least one display module for displaying information about the patient's heart  
5 to a user.

1 16. The system of claim 17, wherein the display module is configured to  
2 provide an integral map of the patient's heart and a three-dimensional image of the patient's  
3 heart which shows a location of ischemia.

1 17. An apparatus for enhancing diagnosis of myocardial infarctions, the  
2 apparatus comprising a database derived from electrocardiogram data from multiple patients  
3 with cardiac ischemia in known locations on the heart, the database derived by sorting the  
4 electrocardiogram data into multiple groups based on the known locations.

1 18. The apparatus of claim 17, further comprising angiogram or thallium  
2 scan data for each of the multiple patients.

1 19. An apparatus for enhancing diagnosis of myocardial infarctions, the  
2 apparatus comprising a disposable panel having multiple electrocardiogram leads, the panel  
3 configured for placement on or under a patient to acquire cardiac data from the patient.